

Docket No.: 043888-0447

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of	:	Customer Number: 53080
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Tetsuya HAYASHI, et al.	:	Confirmation Number: 9484
	:	
Application No.: 10/576,421	:	Group Art Unit: 1795
	:	
Filed: April 19, 2006	:	Examiner: Rademaker, Claire L
	:	
For: LITHIUM ION SECONDARY BATTERY AND PRODUCTION METHOD THEREOF	:	

REPLY BRIEF

Mail Stop Reply Brief
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Pursuant to 37 C.F.R. § 41.41, the following Remarks are respectfully submitted in response to the Examiner's Answer dated October 13, 2009. Appellants reassert all arguments contained in the Principal Brief.

Reply to Examiner's Answer

In the Examiner's Answer, the Examiner replies to arguments set forth in the Appeal Brief filed on July 9, 2009 in the "Response to Arguments". Applicants respond to the Response to Arguments as follows.

On pages 11-12 of the Response to Arguments section, the Examiner disagrees with the Appellants' argument that there is no valid basis to make the proposed combination of Mizutani and Takayama because the objective of Mizutani is to eliminate useless parts which have no contribution to power generation and the winding core of Takayama is a useless part. The Examiner alleges that because Mizutani eliminates the active material layer on the outermost periphery, Mizutani meets its objective. Also, the Examiner alleges that because the present claims do not require a winding core composed of a wound end of the separator or a winding core material provided in the approximate center part.

The Examiner's reasoning is devoid of logic. The Examiner would have the Board believe that because Mizutani eliminates the active material layer, then it would not be contrary to the stated purpose of Mizutani (eliminating useless parts that do not contribute to power generation) to add a *far larger* winding core. The winding core of Takayama a) does not contribute to power generation, and b) is a useless part, as Mizutani winds its core with a removable jig. Therefore, adding the winding core of Takayama, regardless of how it is composed, is contrary to the stated objective of Mizutani. Therefore, the combination is improper.

On pages 13-14 of the Response to Arguments, the Examiner disagrees with the argument that it would be impossible to spray the porous film of Reichert before formation of the

positive and negative electrode. The Examiner states that Appellant has not shown evidence that the process of forming the porous film before making the electrodes, and then placing the porous film in between the electrodes would produce a substantially different result than spraying the porous film on both electrodes.

It is uncertain what point the Examiner is attempting to get across here. In the Office Action, the Examiner admits that Mizutani fails to teach the specified composition of the porous film layer of the present disclosure. However, the Examiner uses Reichert, which “teaches a porous film layer comprising a filler and a binder in order to allow the porous film layer to be sprayed directly onto an anode or cathode”. Thus, the Examiner admits that the composition of Reichert is used for spraying on the electrode, not for placing in between the electrodes. As such, there is no suggestion in Reichert that the porous film can be placed in between the electrodes without spraying. Therefore, as stated in the Appeal Brief, one could not use the porous film in Mizutani due to the differences in forming the electrodes.

On pages 15-16 of the Response to Arguments section, the Examiner disagrees that rolling up the porous film and electrode combination of the present disclosure around a jig such as in Mizutani would not be possible without the formation of cracks due to the tightness of winding around a jig as opposed to a winding core. The Examiner offers no evidence contrary to the Appellant statement. The Examiner merely states that the Appellants have not offered their own evidence for the argument against the combination. Furthermore, the Examiner also alleges that because Appellants failed to argue against Takayama in the discussion, then the argument is improper as the rejection is based on Mizutani, Reichert and Takayama.

In response, Appellants would point out Figs. 7A-D of Mizutani, which show how the jig 21 is used to wind the separator 1 having the positive 5 and negative 6 electrode material on either side of the separator 1. As is quite clear from Fig. 7D, the turning of the jig to wind the separator produces a very sharp bend in the separator and especially the electrode laminates. This process could not be accomplished in the present disclosure, in which a porous film having a filler and binder is used. As is well known in the art, filler and binder becomes cracked if undue stress is applied. Hence, the winding core is utilized to wind the electrode. Therefore, it is clear that the battery of Mizutani cannot be applied to the present disclosure. Further, the Appellants would point out that the same argument applies equally to Takayama as to Reichert. Takayama too shows a winding core, that like Reichert, is not a jig, as is disclosed in Mizutani. Appellants' argument is based on applying the jig of Mizutani to the present disclosure. However, the jig of Mizutani cannot be applied to Takayama and Reichert either, for the same reasons. Accordingly, the proposed combination is improper.

In view of the above arguments and those set forth in the Appeal Brief, Applicants have demonstrated that Mizutani (US 2003/0180605) in view of Reichert et al. (USP No. 6,217,623) and Takayama et al. (JP 09-035738) does not render independent claims 1 and 5 obvious. Appellants respectfully submit that the Examiner's rejections under 35 U.S.C. § 103 are not legally viable. Appellant, therefore, respectfully solicits the Honorable Board to reverse the Examiner's rejections of claims 1, 3-5 and 7-8 under 35 U.S.C. § 103(a) as being unpatentable over Mizutani (US 2003/0180605) in view of Reichert et al. (USP No. 6,217,623) and Takayama et al. (JP 09-035738), and claims 2 and 6 as being unpatentable over Mizutani, Reichert and Takayama in further view of Komatsu et al. (US 2002/0146626).

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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